

# DynaHell

By Carl Jensen Austin, Texas

I must have been a bad person in a previous life. A very, very bad person since I have repeatedly been cursed with Dynastart problems from Hell. This is a story about the futility of wishful thinking when it comes to Isetta repairs and how it really helps to follow instructions.

Some time ago, both my Messerschmitt and Isetta Dynastarts had weird problems that I traced to the field coils leaking current to the case. Rewrapping some of the coils and painting the remaining ones with a special paint from an armature shop fixed the problems.

I thought my Dynastart concerns were over until I drove my Isetta to a meeting of our Austin, Texas microcar club called the Micronuts. The engine was a little reluctant to turn over when I started it, but once underway the car drove fine. The meeting was at a popular Austin restaurant and we had our usual great time.

When the meeting was over we all went to the parking lot and I showed off my Isetta. Unfortunately when I tried to start the engine it wouldn't turn over. To my great chagrin, the other Micronuts had to give me a push start. It was like the time some years ago when I was showing off and parked a fancy old car right in front of a club and later had to have it towed home when it wouldn't start.

There was no way I wanted to do these repairs since I had previously spent so much time fixing the other Dynastart problems. I decided that the battery must have gone bad, even though it wasn't that old. This analysis worked perfectly for me, since it would be the easiest problem to fix – just replace the battery. As confirmation I turned on the headlights (with the engine off) to see if they were dim. This would indicate a weak battery.

Dang - the headlights were bright. So I came up with a terrific theory that would still make for a simple repair – the battery had an intermittent bad cell! I had never heard of such a thing, but it worked just fine for me.

It was a 3-year old Harley battery, so it really should have had a lot of life left. Nevertheless, I looked on the Internet and ordered the biggest sealed battery that would fit my battery tray. When the new battery arrived it was humongous. I figured that with all those mega-amps going to the starter it had to work. I hooked up the battery and.....nothing. The engine still wouldn't turn over.

I finally gave in and removed some covers and things so I could perform tests using John Jensen's book on Isetta restoration as a guide. Then I found the problem – the armature was leaking some current. Not a complete short, but there was a definite leak.

I bought a replacement armature from Germany, installed it, switched on the ignition key and .....nothing. The engine still wouldn't turn over. What a letdown, since I was so certain that I had found the problem.

I did further testing and verified with my ohmmeter that the field coils were not shorting out to the case and that there were no breaks in the coil circuits. I figured that the problem must therefore be somewhere upstream of the Dynastart.

I then removed the voltage regulator/starter solenoid assembly. This unit was replaced when I first restored the car. It was changed out not because the old one wasn't working, but I did not want to rely on a 40-year old electrical unit. When I took the cover off the problem became obvious – it had overheated and leaked some kind of hard substance in various places. I priced a replacement, and found that it is now very, very, very expensive to replace.

My fellow Micronut club member Bruce Fullerton came to the rescue and brought over his unit for comparison. When we removed the cover we saw that it had the same hard stuff that seemed to have leaked out. Our best guess was that this was something that may have been added at the factory to guard against vibration or aid in removing heat, so apparently it was supposed to be there. Maybe it was just sloppy manufacturing, or maybe it really didn't matter since most owners would not ever remove the cover of these units. To verify that it was not the cause of my problems I installed the original one and.....nothing.

I still had to believe that the problem did not lie in the Dynastart unit itself, so the only thing left was the ignition switch. Got a new one from Germany, and guess what? I turned on the switch and.....nothing.

Now the problem seemed obvious – it had to be in the Dynastart unit itself despite my earlier finding that there were no shorts or breaks in the field coils. It turned out that the problem was indeed in the starter field coils, but it did not show up in my ohmmeter test that only checked to see if there was or was not continuity. My error was that I did not follow John Jensen's instructions and run current through the coils. I'm not sure why that made a difference, but one NOS field coil assembly later (I couldn't believe that I was able to get a NOS one – what a find!) and the engine starts just fine.

If there is a moral to this expensive and frustrating adventure, it is to follow John Jensen's troubleshooting instructions to the letter. Forget the wishful thinking and don't replace parts without thoroughly testing them to be sure they are bad.

The good news is that my Isetta now starts and runs like a champ. And after all this, if I have any more Dynastart problems I will just drive the Isetta and myself into a lake to put us both out of our misery.